

**AN INTERPOLATION DELAY CELL FOR  
2ps RESOLUTION JITTER INJECTOR IN OPTICAL LINK TRANSCEIVER**

**ABSTRACT OF THE DISCLOSURE**

An apparatus and method for generating signals with improved timing resolution includes a delay cell adapted to receive dual coupled differential input signals. The delay cell performs an interpolation function which smooths state transitions or other discontinuities that result from timing or phase offsets between the input signals. The interpolation function is performed by resistors which couple respective components of the differential inputs prior to traversing delay paths. A delay cell of this type has high supply noise rejection and a low output swing range, thereby making it suitable for a number of applications. One application includes a jitter noise generator which uses the delay cell to achieve improved timing resolution and which is not limited by a minimum delay of the cell. Another application uses the delay cell to form a coupled delay line.